

Appl. No. 10/672,128  
Amdt. Dated September 28, 2005  
Reply to Office Action of March 28, 2005

NC 34668

### **Amendment to the Claims**

#### **Listing of Claims:**

- 1   **Claim 1 (currently amended): A system that facilitates signal**  
2   **transmission and reception, comprising:**  
3       **a balanced duplexer comprising;**  
4       **a first component having at least two filters to convey signals**  
5   **within a transmission and reception frequency band; and**  
6       **a second component that interfaces the first component to a**  
7   **front-end and a back-end, the second component providing isolation**  
8   **between the first component and the front and back ends.**  
9  
1   **Claim 2 (original): The system of claim 1, the first component provides**  
2   **concurrent signal transmission and reception.**  
3  
1   **Claim 3 (currently amended): The system of claim 1, the first-second**  
2   **component comprising two or more filters-couplers.**  
3  
1   **Claim 4 (canceled)**  
2  
1   **Claim 5 (currently amended): The system of claim 4 3, the second**  
2   **component comprising two 3db hybrid couplers.**  
3  
1   **Claim 6 (original): The system of claim 5, the 3db hybrid couplers**  
2   **comprising at least one of a Lange coupler and a discrete coupler.**

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1 **Claim 7 (cancelled)**

2

1 **Claim 8 (original): The system of claim 1 employed within at least one of**  
2 **a mobile phone, a web phone, a personal data assistant (PDA), a hand-**  
3 **held PC, a pocket PC, a palm-pilot, a laptop, a tablet PC, a Notepad, a**  
4 **GPS, a pager, a personal computer, a mainframe, and a workstation.**

5

1 **Claim 9 (currently amended): A balanced duplexer, comprising:**  
2 **a first filter;**

3 **a second filter, the first and second filters have a substantially**  
4 **similar input and output impedance;**

5 **a first coupler that interfaces the first and second filters to a**  
6 **processing unit of a device and the first coupler interfaces a first**  
7 **termination; and**

8 **a second coupler that interfaces the first and second filters to an**  
9 **antenna, a detector and the second coupler interfaces a second**  
10 **termination, the balanced duplexer is employed to facilitate transmitting**  
11 **and receiving signals, each signal having a respective signal power,**  
12 **through the first and second filters.**

13

1 **Claim 10 (currently amended): The system balanced duplexer of claim**  
2 **9, the first and second filters are employed such that a portion of the**  
3 **signal power is directed through one of the filters and the remaining**  
4 **signal power is directed through the other filter.**

5

1 **Claim 11 (currently amended): The system balanced duplexer of claim**  
2 **10, the portion of signal power directed to respective filters is**  
3 **determined by a power ratio.**

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1 **Claim 12 (currently amended): The ~~system~~ balanced duplexer of claim**  
2 **10, the portion of signal power directed through respective filters is**  
3 **about one half the total power.**

4

1 **Claim 13 (currently amended): The ~~system~~ balanced duplexer of claim**  
2 **10, the first and second filters configured such that if one filter becomes**  
3 **inoperable, the other filter can be utilized to process the full signal**  
4 **power.**

5

1 **Claim 14 (currently amended): The ~~system~~ balanced duplexer of claim**  
2 **9, the balanced duplexer buffers an input and an output stage.**

3

1 **Claim 15 (currently amended): The ~~system~~ balanced duplexer of claim**  
2 **9, the first and second couplers being 3 dB hybrid couplers comprising**  
3 **one of a Lange coupler and a discrete coupler.**

4

1 **Claim 16 (currently amended): The ~~system~~ balanced duplexer of claim**  
2 **15, the Lange coupler providing isolation between the first and second**  
3 **filters and the processing unit and the first and second filters and the**  
4 **antenna and detector.**

5

1 **Claim 17 (currently amended): The ~~system~~ balanced duplexer of claim**  
2 **9, the first and second terminations is about 50 $\Omega$ .**

3

1 **Claim 18 (currently amended): The ~~system~~ balanced duplexer of claim**  
2 **9, the first and second filters comprising acoustic filters comprising**  
3 **SAW and BAW filters.**

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1 **Claim 19 (currently amended): The system balanced duplexer of claim 9**  
2 **employed within at least one of a mobile phone, a web phone, a personal**  
3 **data assistant (PDA), a hand-held PC, a pocket PC, a palm-pilot, a**  
4 **laptop, a tablet PC, a Notepad, a GPS, a pager, a personal computer, a**  
5 **mainframe, and a workstation.**

6  
1 **Claim 20 (currently amended): The system balanced duplexer of claim**  
2 **9, the first and second couplers divert reflected power into the first and**  
3 **second terminations, respectively.**

4  
1 **Claim 21 (currently amended): The system balanced duplexer of claim**  
2 **9, the first and second couplers reduce reflected energy by combining**  
3 **reflected energy that is 180 degrees out of phase.**

4  
1 **Claim 22 (currently amended): The system balanced duplexer of claim**  
2 **9, the first and second filters employed in the reception of a signal to**  
3 **improve LNA and antenna matching.**

4  
1 **Claim 23 (currently amended): A ~~methodology~~ method for transmitting**  
2 **signals, comprising:**

3 **conveying a generated signal to a balanced duplexer, the signal**  
4 **divided into two portions, a first portion with a first signal power**  
5 **transmitted through a first filter of the balanced duplexer and a**  
6 **remaining portion transmitted through a second filter, the remaining**  
7 **portion associated with a remaining signal power;**

8 **combining the first portion and second signal portions after**  
9 **having exited at least one coupler, the combined first portion and**  
10 **second portion forming a final signal, and**

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12 transmitting the final signal.

13

1 Claim 24 (currently amended): The method of claim 23, further  
2 comprising employing 3 dB hybrid couplers to divide ~~and combine~~ the  
3 generated signal, and the 3dB hybrid couplers and obtain the final  
4 signal.

5

1 Claim 25 (original): The method of claim 24, further comprising  
2 providing isolation between the 3 dB hybrid couplers and a signal  
3 generating and a transmitting component.

4

1 Claim 26 (currently amended): A ~~methodology~~ method for receiving  
2 signals, comprising:

3 accepting a signal;

4 conveying the signal to a balanced duplexer, the signal conveyed  
5 through at least one filter of the balanced duplexer, and

6 isolating the signal from a transmitted signal.

7

1 Claim 27 (original): A system that facilitates concurrent signal  
2 transmission and reception via a balanced duplexer, comprising:

3 means for coupling a generated signal with the balanced  
4 duplexer;

5 means for coupling a received signal with the balanced duplexer;

6 means for isolating the generated signal from the received signal;

7 means for filtering the generated and received signals, and

8 means for diverting power reflections associated with the  
9 generated and received signals to terminations.

10

1 Claim 28 (new): The method of claim 26 wherein the balanced duplexer  
2 comprises two filters.

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- 1 **Claim 29 (new): The system of claim 27 wherein the balanced duplexer**
- 2 **comprises two filters.**